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EXAMINER

DANIELS, ANTHONY J

ART UNIT	PAPER NUMBER
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2622

DATE MAILED: 06/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/837,342

Applicant(s)

WATANABE, KAZUMITSU

Examiner

Anthony J. Daniels

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 April 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Response to Amendment*

1. The amendment, filed 4/12/2006, has been entered and made of record. Claims 1-36 are pending in the application.

### *Response to Arguments*

2. Applicant's arguments filed 4/12/2006 have been fully considered but they are not persuasive.

As to applicant's arguments in regard to claims 1,8,15,17 and 19 concerning the Horie reference, the examiner respectfully disagrees. On p. 2, last paragraph, Applicant asserts, "...Horie discloses an image generating apparatus where partial images are pasted together based only on calculations done by the apparatus, not based on user input...creation of the whole image is not based on any user input..." The examiner agrees that the images are pasted together based on calculations done by the apparatus. However, the examiner cannot agree that these calculations form the only basis for pasting together the images. The examiner cannot emphasize enough the fact that when a user inputs a 2x2 (4 partial images) direction via the user input device (Figure 2, row and column number setting switch "14a" and "14b"), the 4 partial images are sensed at oblique angles causing geometric distortions; thus, making geometric transformation necessary for pasting the images (see Office Action dated 1/12/2006 – claim 1). The examiner poses this question. Would the geometric transformation be necessary if the user input directions for a 1x1 image? The examiner contends that the answer is no and submits that there is a crucial basis on user input for pasting the images together. In the 1x1 image selection,

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the one and only image is not sensed at an oblique angle, thereby alleviating the need for geometric transformation.

Applicant further asserts on p. 2, last paragraph, "...the illustrations and block diagrams in Figures 1, 2, and 6 of Horie do not show any input means for inputting a translational command, such as a mouse or joystick. The outstanding Office Action cited column 11, Line 26 to column 12, Line 14 as describing this element." It is respectfully submitted that in the Office Action, the examiner cited Figure 2 having the shutter button "6", the high resolution mode switch "7", and row and column number setting switch "14a" and "14b" together as the input means (see Office Action, p. 3, Lines 19-21). Column 11, Line 26 to column 12, Line 14 was cited to show that a geometric transformation is necessary only when partial images are sensed at oblique angles. This happens when a user inputs, via the row and column number setting switch "14a" and "14b" of Figure 2, multiple partial images.

In conclusion, the examiner submits that the row and column number setting switch "14a" and "14b" inputs translation instruction commands to the apparatus when a user inputs multiple partial images to be sensed. This is so, because the oblique angles at which the images are sensed create geometric distortions which require geometric transformations (Transformations which move one image with respect to another.) to correct. Finally, these transformations would not occur if the user does not input multiple partial images to be sensed.

The examiner believes all arguments have been addressed.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3,5-7,15,17,19,21,22,25,26,29,30,33,34 are rejected under 35 U.S.C. 102(e) as being anticipated by Horie et al. (US # 6,720,997).

As to claim 1, Horie et al. teaches a digital camera (Figures 1-3, electronic camera “1”) comprising: a photographing unit which picks-up an image and obtains image data (Figure 6, CCD “203”); a storage control unit (Figure 6, controller “20”) which stores the image data in the form of an image data file in a predetermined manner in a recording medium (Figure 6 image processor “23”; Figure 7, image memory “231”, HD card “10”; *{Examiner refers to recording medium as the image memory “231” and the HD card “10”}.*); a reconstruction control unit (Figure 6, controller “20”) which reconstructs the image data stored in said recording medium (Figure 7, flow from the image memory “231” to subsequent circuits); an image data processing unit which combines the image data picked-up by said photographing unit and the image data reconstructed by said reconstruction control unit to produce an image data (Figure 7, image combining circuit “236”; *{The image data picked-up by the photographing unit is considered the partial image “Ga” and the partial image “Gb”. Also, see Figure 11.}*), and makes said recording medium store the produced image data (Figure 7, flow to HD card “10” after image combination; Figure 23, “#62” and “#66”); a display unit which displays the images (Figure 6, LCD “11”); a display control unit (Figure 6, LCD drive controller “24”) which makes said

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display unit simultaneously display the image data obtained by said photographing unit for monitoring and the image data reconstructed by said reconstruction control unit, or which makes said display unit display the image data produced by said image data processing unit (Figure 4, "2 whole image display"; *{A reduced version of the image data picked-up by the photographing unit and the image data reconstructed by the reconstruction unit is simultaneously displayed as seen in Figure 4.}*); and an operational instruction inputting unit (Figure 2, shutter button "6", high resolution mode switch "7", and row and column number setting switch "14a" and "14b" together is the operational instruction inputting unit) which provides operational instruction signals to said photographing unit, said storage control unit, said image data processing unit, and said display control unit (*The switching of the shutter button "6", together with switches "14a, 14b" and "7", initiates photographing, storage, image combining, and whole image display.*), wherein said operation instruction signals include translation instructions input by a user to move a first image with respect to a second image (Col. 11, Lines 26-67; Col. 12, Lines 1-14; *{In the cited teachings of Horie et al., the four partially sensed images (in this embodiment) are taken by the electronic camera with one lens. The lens is moved by a motor to sense all four partial images, sequentially (Col. 9, Lines 38-53). Therefore, the images are obtained at oblique angles (Figure 5), making the geometric transformation necessary for proper image combination when the user selects the high resolution mode by the mode switch "7". The geometric transformations consist of parallel movement, enlargement/reduction, or rotation. Each of these transformations requires the movement of one of the partial images with respect to another (Figure 11).}*).

As to claim 2, Horie et al. teaches the digital camera according to claim 1, wherein said operational instruction inputting unit can designate a portion of the plurality of the image data where the images are to be combined (Col. 13, Lines 15-18, "...boundary portions..."; *{The row and column number setting switch instructs a combination "Ga" with "Gb" when four or more partial images are selected.}*).

As to claim 3, Horie et al. teaches the digital camera according to claim 1, wherein said operational instruction inputting unit can designate whether the image data is to be displayed in enlarged or reduced manner (Figure 4, whole image display; Figure 6, zoom control circuit "6").

As to claim 5, Horie et al. teaches the digital camera according to claim 1, wherein said image data processing unit can combine a plurality of the image data recorded in said recording medium (Col. 13, Lines 15-24).

As to claim 6, Horie et al. teaches the digital camera according to claim 5, wherein said image data processing unit can perform swing and/or tilt correction when combining a plurality of the image data stored in said recording medium (Figure 11, rotation).

As to claim 7, Horie et al. teaches the digital camera according to claim 5, wherein said image data processing unit can perform color correction when combining a plurality of the image data stored in said recording medium (Col. 17, Lines 32-35).

As to claims 15,19, the limitations of claims 15,19 can be found in claim 1. Therefore, claims 15,19 are analyzed and rejected as previously discussed with respect to claim 1.

As to claim 17, claim 17 is a method claim corresponding to the apparatus claim 1. Therefore claim 17 is analyzed and rejected as previously discussed with respect to claim 1.

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As to claims **21,22**, the first and second images are both obtained by the photographing unit for monitoring (Figure 4) and reconstructed by the reconstruction unit (Figure 7, image memory “231”).

As to claims **25** and **26**, **29** and **30**, **33** and **34**, the limitations in these claims can be found in claims 21 and 22. Therefore, claims 25 and 26, 29 and 30, 33 and 34 are analyzed and rejected as previously discussed with respect to claims 21,22.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Horie et al. (US # 6,720,997).

As to claim 4, Horie et al. teaches the digital camera according to claim 1. Although Horie et al. does not state it explicitly, **Official Notice** is taken that the concept of using touch panels on digital cameras to provide camera instructions is well known and expected in the art. One of ordinary skill in the art would have been motivated to do this, because touch panels provide ease of use without the need of space consuming mechanical switches.

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5. Claims 8-14,16,18,20,23,24,27,28,31,32,35,36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horie et al. (US # 6,720,997) in view of Fukushima et al. (US # 5,903,303).

As to claim 8, Horie et al. teaches a digital camera (Figures 1-3, electronic camera "1") comprising: a photographing unit which picks-up an image and obtains image data (Figure 6, CCD "203"); a storage control unit (Figure 6, controller "20") which stores the image data in the form of an image data file in a predetermined manner in a recording medium (Figure 6, image processor "23"; Figure 7, image memory "231", HD card "10"; *{Examiner refers to recording medium as the image memory "231" and the HD card "10".}*); a reconstruction control unit (Figure 6, controller "20") which reconstructs the image data stored in said recording medium (Figure 7, flow from the image memory "231" to subsequent circuits); an image data processing unit which combines the image data picked-up by said photographing unit and the image data reconstructed by said reconstruction control unit to produce an image data (Figure 7, image combining circuit "236"; *{The image data picked-up by the photographing unit is considered the partial image "Ga" and the partial image "Gb". Also, see Figure 11.}*), and makes said recording medium store the produced image data (Figure 7, flow to HD card "10" after image combination; Figure 23, "#62" and "#66"); a display unit which displays the images (Figure 6, LCD "11"); a display control unit (Figure 6, LCD drive controller "24") which makes said display unit simultaneously display the image data obtained by said photographing unit for monitoring and the image data reconstructed by said reconstruction control unit, or which makes said display unit display the image data produced by said image data processing unit (Figure 4, "2 whole image display"; *{A reduced version of the image data picked-up by the photographing*

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*unit and the image data reconstructed by the reconstruction unit is simultaneously displayed as seen in Figure 4.}); and an operational instruction inputting unit (Figure 2, shutter button “6”, high resolution mode switch “7”, and row and column number setting switch “14a” and “14b” together is the operational instruction inputting unit) which provides operational instruction signals to said photographing unit, said storage control unit, said image data processing unit, and said display control unit (The switching of the shutter button “6”, together with switches “14a, 14b” and “7”, initiates photographing, storage, image combining, and whole image display.), wherein said operation instruction signals include translation instructions input by a user to move a first image with respect to a second image (Col. 11, Lines 26-67; Col. 12, Lines 1-14; {In the cited teachings of Horie et al., the four partially sensed images (in this embodiment) are taken by the electronic camera with one lens. The lens is moved by a motor to sense all four partial images, sequentially (Col. 9, Lines 38-53). Therefore, the images are obtained at oblique angles (Figure 5), making the geometric transformation necessary for proper image combination when the user selects the high resolution mode by the mode switch “7”. The geometric transformations consist of parallel movement, enlargement/reduction, or rotation. Each of these transformations requires the movement of one of the partial images with respect to another (Figure 11).}). The claim differs from Horie et al. in that it further requires that said photographing unit includes a plurality of CCDS which simultaneously pick-up an image of same or a plurality of objects and obtain a plurality of image data, said display control unit can make said display unit simultaneously display the plurality of image data obtained by said photographing unit.*

In the same field of endeavor, Fukushima et al. teaches a digital camera (Figure 1) including two CCD imagers (Figure 1, CCD imagers “10R” and “10L”) with associated lenses (Figure 1, lenses “8R” and “8L”) and exposure control members (Figure 1, exposure control members “9R” and “9L”). The digital camera combines images together that are taken by the two CCD imagers (Col. 3, Lines 39-42). In light of the teaching of Fukushima et al., it would have been obvious to one of ordinary skill in the art to include the second image pickup portion of Fukushima et al. in the system of Horie et al., because an artisan of ordinary skill in the art would have recognized that providing the second image pickup portion would provide a faster solution for the high resolution image pickup mode in Horie et al.

As to claim 9, Horie et al., as modified by Fukushima et al., teaches the digital camera according to claim 8, wherein said image data processing unit can combine a plurality of image data when simultaneously displaying the plurality of the image data on said display control unit (see Horie et al., Figure 4, “2 whole image display”; Figure 22, “#46”; Figure 23, “#62”).

As to claim 10, Horie et al., as modified by Fukushima et al., teaches the digital camera according to claim 8, wherein said image data processing unit can perform color correction for each of the plurality of image data (see Horie et al., Col. 17, Lines 32-35).

As to claim 11, Horie et al., as modified by Fukushima et al., teaches the digital camera according to claim 8, wherein said photographing unit can simultaneously obtain a plurality of images of the same object at different zooming ratios (see Fukushima et al., Col. 3, Lines 26,27; *{Since different drive portions are controlling zoom drive, it is inherent that the zooming ratios can different from each other.}*).

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As to claim 12, Horie et al., as modified by Fukushima et al., teaches the digital camera according to claim 8, wherein said photographing unit can simultaneously obtain a plurality of images of the same object at different shutter speed (see Fukushima et al., Col. 4, Lines 41-50, *{Since different drive portions are controlling the shutter, it is inherent that the shutter speeds can different from each other.}*).

As to claim 13, Horie et al., as modified by Fukushima et al. teaches the digital camera according to claim 8, wherein said photographing unit can simultaneously obtain a plurality of images of the same object at different exposure values (see Fukushima et al., Col. 4, Lines 41-50, *{Since different drive portions are controlling the exposure control members, it is inherent that the exposure values can different from each other.}*).

As to claim 14, Horie et al., as modified by Fukushima et al., teaches the digital camera according to claim 8, wherein said photographing unit can simultaneously obtain a plurality of images of the same object at different white balance values (see Horie et al., Col. 11, Lines 26-31).

As to claims 16,20, the limitations of claims 16,20 can be found in claim 8. Therefore, claims 16,20 are analyzed and rejected as previously discussed with respect to claim 8.

As to claim 18, claim 18 is a method claim corresponding to the apparatus claim 8. Therefore claim 18 is analyzed and rejected as previously discussed with respect to claim 8.

As to claims 23,24, the first and second images are both obtained by the photographing unit for monitoring (see Horie et al., Figure 4) and reconstructed by the reconstruction unit (see Horie et al., Figure 7, image memory "231").

As to claims **27** and **28**, **31** and **32**, **35** and **36**, the limitations in these claims can be found in claims 23 and 24. Therefore, claims 27 and 28, 31 and 32, 35 and 36 are analyzed and rejected as previously discussed with respect to claims 23,24.

### ***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony J. Daniels whose telephone number is (571) 272-7362. The examiner can normally be reached on 8:00 A.M. - 5:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ngoc-Yen Vu can be reached on (571) 272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AD  
6/13/2006



LIN YE  
PRIMARY EXAMINER